THE EFFECT OF TEACHERS' ATTITUDE TOWARD INCLUSION ON THE PRACTICE AND SUCCESS LEVELS OF CHILDREN WITH AND WITHOUT DISABILITIES IN PHYSICAL EDUCATION

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The purpose of this study was to ascertain the relationship between teachers' attitudes toward the inclusion of children with mild to moderate mental disabilities in physical education settings and the amount of practice attempts performed and the levels of success attained by these students compared to their peers without disabilities. The findings suggested a relationship between teacher attitude toward inclusion and teacher effectiveness. Teachers with a positive attitude toward inclusion provided all of their students with significantly more practice attempts, at a higher level of success.

Recent laws and legislations have resulted in physical educators teaching classes that include children with special needs. Students who have mild or moderate mental disabilities such as mild mental retardation, learning disabilities, and emotional / behavioral disorders are generally placed into regular physical education classes without an accompanying teacher's aid. The inclusion of students with disabilities into regular physical education classes has provided a tremendous challenge to physical educators who have strived to meet the needs of the included children without neglecting the needs of the other children.

Researchers have attempted to discover the factors associated with the successful inclusion of students with disabilities. The role of teachers' attitudes has been studied. The majority of these studies in physical education have assumed that a positive attitude towards inclusion was necessary for the successful inclusion of children with disabilities into physical education (Rizzo & Vispoel, 1992; Tripp & Sherrill, 1991). These studies have examined the relationship between different types of attitudes and variables such as teacher age (Rizzo, 1985; Rizzo & Wright, 1988), gender (Patrick, 1987), teaching experience (Marston & Leslie, 1983), educational preparation (Rizzo & Vispoel, 1992), perceived teaching competence (Rizzo & Wright, 1988), and type and severity of student disability (Rizzo & Vispoel, 1991).

Several student and teacher related variables have been significantly and consistently linked with specific teacher attitudes toward inclusion (Rizzo & Vispoel, 1992). Student grade level and severity of disability have been found to influence teachers' attitudes toward inclusion. Specifically, students with disabilities were viewed more favorably in lower grade levels than in higher grade levels (Minner & Knutson, 1982; Rizzo, 1984), and children with less severe disabilities were viewed more favorably than those with more severe disabilities (Rizzo, 1984; Rizzo & Vispoel, 1991; Rizzo & Wright, 1987; Tripp, 1988).

Research on teacher variables has revealed that attitudes were related to self-perceptions of competence, educational preparation, and experience in teaching students with disabilities (Rizzo & Vispoel, 1992). Specifically, teachers' attitudes toward inclusion were more likely to be favorable if they perceived themselves as better teachers (Rizzo & Vispoel, 1991; Rizzo & Wright, 1988), had greater education preparation (Rizzo, 1985), and had more years of experience in teaching children with disabilities (Marston & Leslie, 1983; Rizzo & Vispoel, 1991). The research findings on the relationship between attitudes toward inclusion and student and teacher variables are summarized in Table 1(next page).

Few studies have directly examined the relationship between teacher expectations or attitudes towards students with and without disabilities and student motor performance in mainstreamed physical education classes. Karper and Martinek (1983) conducted an exploratory study to determine the differential relationships among teacher perceptions of student expression of effort, teacher expectations, grade, school, teacher, gender, and being disabled / non-disabled on gross motor

performance among children with and without disabilities in inclusive physical education classes. Student gross motor performance was significantly related to and could be partially predicted: (a) by teacher perceptions of student expression of effort, (b) by grade level, and (c) by teacher expectations for overall performance in physical skill as well as teacher expectations for ability to reason. The finding that student performance was consistent with expectations held by their teachers lent indirect support to the ideas first proposed in general education settings by Rosenthal and Jacobson (1968).

Table 1.
Summary of Research on Teacher' Attitudes Toward Inclusion (Rizzo & Vispoel, 1992)

Research Conclusion	Researcher(s)
Students with disabilities are viewed more favorably in lower grades than in higher grade levels.	Minner & Knutson, 1982; Rizzo, 1984.
Students with less severe disabilities are viewed more favorably than those with more severe handicaps.	Rizzo, 1984; Rizzo & Vispoel, 1981; Rizzo & Wright, 1987; Tripp, 1988.
Teachers' attitudes are more likely to be favorable if they have: (a) higher perceived teaching competence, (b) greater educational preparation, and (c) more experience in teaching students with disabilities.	(a) Rizzo & Vispoel, 1991; Rizzo & Wright, 1988. (b) Rizzo, 1985. (c) Marston & Leslie, 1983; Rizzo & Vispoel, 1991.
No gender differences in attitude toward teaching students with disabilities.	Patrick, 1987; Rizzo & Vispoel, 1991; Rizzo & Wright, 1988.
Older physical educators have less favorable attitudes than younger educators do.	Rizzo & Wright, 1988; Rizzo & Vispoel, 1991.

Effective physical education teachers provide their students with lots of successful practice opportunities in a structured learning environment (Blakemore, 1986; Graham, Holt/Hale, & Parker, 2007; Harrison, 1987). The importance of student success has been recognized by researchers who have investigated the advantages of employing a mastery learning model in physical education (Blakemore, 1986; Rosenshine, 1983). A thorough review of literature revealed that no studies have directly investigated the relationship between a physical educator's attitude towards inclusion and the practice opportunities and success experienced by both students with and without disabilities.

Attitude research in education and physical education has grown increasingly popular over the past twenty years (Folsom-Meek & Rizzo, 2002). This increase has been driven by the belief that the attitude of the teacher can have a direct influence on the successful inclusion of children with disabilities into regular classes (Rizzo & Vispoel, 1992). This investigation was a response to the need for empirical evidence regarding the relationship between teacher attitudes toward inclusion and student practice attempts and levels of success.

Method

Questionnaire Selection

The PEATID-III questionnaire was used to measure teacher's attitudes towards teaching inclusionary classes. The PEATID-II was originally developed by Rizzo in 1983 (originally known as the PEATH) and has been revised twice (Rizzo, 1986; 1993). The PEATID-III consists of a series of statements which requires teachers to express their beliefs about teaching individuals with disabilities in their regular physical education classes. Evidence of validity and reliability related to the PEATID-III has recently been reported by Folsom-Meek and Rizzo (2002). Construct validity of the PEATID-III was obtained through principal components analysis. Reliability was estimated through the coefficient alpha (Cronbach, 1951) and was reported at .88 for the total scale. The study was delimited to investigating the relationship between teacher attitudes toward inclusion and the number of practice trials performed and success levels achieved by students with mild / moderate mental disabilities and students without

disabilities in regular physical education classes. The questionnaire did not investigate attitudes toward the inclusion of students with physical disabilities or more severe mental disabilities.

Questionnaire Mailing, Collection, and Scoring

The PEATID-III questionnaire was mailed to the school address of all elementary physical educators in the school districts who had given the investigator permission to conduct research in their schools. Enclosed with the questionnaire was a set of instructions and a stamped return-addressed envelope. The questionnaire was formatted so that it was attractive, easy for the teachers to read and answer, and convenient to code and score.

The main portion of the original PEATID-III consisted of 12 statements such as, *Teaching students labeled as 'mild / moderate mental disabilities' in regular physical education classes with nondisabled students will disrupt the harmony of the class,* and *Having to teach students labeled 'mild / moderate mental disabilities' in regular physical education classes with nondisabled students places an unfair burden on teachers.* Under each of the 12 statements a 5-point Likert scale (i.e., 1=strongly disagree, 2=disagree, 3=undecided, 4=agree, 5=strongly agree) was provided for the respondents to answer each question. Individual questions and total questionnaire scores were derived from the items and represented the responder's attitude toward including students with mild / moderate mental disabilities in his or her class. A total questionnaire score was based on the sum of item scores divided by the number of items so that they were interpreted about the original 5-point Likert scale. To derive proper scale mean scores for negatively phrased statements, the scores were reversed (i.e., 5=strongly disagree, 4=disagree, 3=undecided, 2=agree, 1=strongly agree).

Participant Selection and Grouping

After reviewing the completed questionnaires, 20 elementary physical education teachers were selected as the participants in this study. These participants were assigned into two groups depending on their attitude towards inclusion. Each group consisted of 10 participants who had between 2-25 years of teaching experience. An additional five teachers at each end of the attitudinal continuum were identified as back-up participants. The selected teachers were sent a packet of consent forms (student and parents / guardians) to distribute to the students in their inclusionary class. The teachers proceeded to collect the returned consent form.

Selection of Students

The first step in the selection of the two students who would be observed required the teacher to define the skill level of the student with disabilities on the main skill being observed. The researcher described four potential skill levels at which the student with disabilities might be operating. The teacher then selected the skill level of the student with a disability on the main activity that was going to be observed.

Once the skill level of the student with mild / moderate mental disabilities was stated by the teacher, another student without a disability at the same skill level was selected. This technique of matching students based on their skill level represented a matched-subject design (Sprinthall, 1997). The teacher proceeded to identify four students of the same gender and same age as the child without disabilities from the pool of students who had returned consent forms. Upon the arrival of the children into the gymnasium the teacher pointed out the student with disabilities and the four children who were at the same skill level as the student with disabilities. The researcher proceeded to randomly select one of the students from the four selected students who returned a consent form. In this respect, the students were matched in terms of their skill level, gender, and age.

Each teacher was observed twice while teaching the class with the included child. The data collected from the two observations were averaged to provide a single score for each student on the dependent variables. Two observations and the use of an average score provided more accurate data on the amount of practice attempts and successful practice attempts children had in these classes.

Students were observed performing the specific skills during the class and two things were recorded. They were: (a) each practice trial, and (b) whether each trial was a success according to the teacher's definition. A systematic observational check sheet for analysis of the form components of the skill was utilized.

Testing Set-up and Protocol

The students were not overtly identified or marked in any way so as not to bring attention to them. The two students participated in the class in the same manner as the other students, or as directed by the teacher. The observer was located on the side of the gymnasium in a safe area that did not interfere with the lesson and was able to clearly see the entire gymnasium from the observation point. The inconspicuous positioning of the researcher also minimized the potential of a Hawthorne Effect on the teachers and/or students (Sprinthall, 1997).

Scoring

The scoring instrument used in this study was designed so that it would provide data on how many attempts per minute each student had, and what percentage of total attempts were successful. The number of attempts per minute for each student was found by dividing the total number of attempts by the number of minutes observed. The percentage of successful attempts was calculated by dividing the number of successful attempts by the total number of attempts and then multiplying by 100 (e.g., 25 successful attempts divided by 50 total attempts, multiplied by 100 equals 50%).

Data Analysis

The data from the observations were analyzed using a two-factor split-plot or mixed ANOVA design. This represents a combination of the one-factor repeated measures model and the two-factor fixed-effects model (Lomax, 1998). This design was used because teacher attitude represents a between-subjects factor and the type of students represents a within-subjects factor. Each subject (i.e., teacher) responded to each level of the repeated factor (i.e., type of student), but to only one level of the non-repeated factor (i.e., teacher attitude). Separate analyses were performed for each of the dependent variables in the study. A significant *F* statistic (alpha set at .05) for the main effects was followed by the examination of the marginal means. A significant *F* statistic (alpha set at .05) for the interaction effect was further examined by the use of a series of one-way ANOVAs that tested for simple effects.

Results

The mean number of practice attempts performed by each student during the two observations were calculated (see Table 2) and analyzed using a 2 x 2 split-plot analysis of variance. The results indicated that there was no statistically significant interaction between the teacher's attitude and the type of student, F (1,18) = .495, p = .491. However, the number of practice attempts were independently influenced by the teachers attitude, F (1,18) = 9.022, p = .008. This suggests a main effect for the teacher type. A comparison of the marginal means revealed that students taught by teachers with a positive attitude toward inclusion received significantly more practice attempts (M = 8.2 /min) than students taught by teachers with a negative attitude toward inclusion (M = 4.7 /min). The number of practice attempts were also independently influenced by the type of student, F (1,18) = 19.841, p = .000. This suggests a main effect for the type of student. A comparison of the marginal means revealed that students without special needs received significantly more practice attempts (M = 8.35 /min) than students with special needs (M = 4.55 /min).

Table. 2
Analysis of Variance Source Table: Number of Practice Attempts

Source	SS	DF	MS	F-Ratio	Sig.	Mean	
Between							
Attitude	22.5	1	122.5	9.022	.008	Pos	8.2
						Neg	4.7
Error	244.4	18	13.58				
Within							
Students	44.4	1	144.4	19.841	.00	Reg	8.35
						SN	4.55
Interaction	3.6 (Att x Stud)	1	3.6	.495	.491		
Error	131	18	7.28				

Note. Pos = Positive attitude; Neg = Negative attitude; Reg = Without special needs; SN = With Special Needs

The mean percentage of successful practice attempts performed by the students with and without mild mental disabilities during the two observations were calculated. These data were then analyzed using a 2 x 2 split-plot analysis, with results presented in Table 3. The results indicated that the type of teacher attitude and the type of student did not interact, F (1,18) = .380, p = .545. No statistically significant main effect was found between the type of teacher attitude and the number of successful practice attempts, F (1,18) = 4.388, p = .051. However a trend was noted which approached statistical significance (p = .051). Descriptive analysis revealed that students in classes taught by teachers with positive attitudes performed a higher percentage of successful practice attempts (M = 80%) than did students in classes taught by teachers with negative attitudes (M = 67.55%).

Table 3
Analysis of Variance Source Table: Percentage of Successful Practice Attempts

Source	SS	DF	MS	F-Ratio	Sig	Mean	
Between Attitude	550.025	1	1550.025	4.388	.051	Pos	80
						Neg	67.55
Error	6358.450	18	353.247				
Within Students	570.025	1	570.025	2.488	.132	Reg	77.55
						SN	70
Interaction (Att x Stud)	87.025	1	87.025	.380	.545		
Error	4123.450	18	229.081				

Note. Pos = Positive attitude; Neg = Negative attitude; Reg = Without special needs; SN = With Special Needs.

In addition, no statistically significant main effect was found between the type of student and the percentage of practice attempts that were successful, F(1,18) = 2.488, p = .132. Descriptive analysis revealed that the students without disabilities received a slightly higher percentage of successful practice attempts (M = 82.3%) than the students with disabilities (M = 77.7%), when taught by teachers with positive attitudes towards inclusion. Students without disabilities also had a higher percentage of successful practice attempts (M = 72.8%) than students with disabilities (M = 62.3%), when taught by teachers with negative attitudes towards inclusion.

Discussion

Relationship Between Teacher Attitudes and Practice Opportunities

The results of this ANOVA suggested that the type of teacher attitude toward inclusion did affect the number of practice opportunities that the students with and without disabilities received in physical education classes. The students in the classes taught by teachers with positive attitudes had significantly more practice attempts (M = 8.2 /min) than the students taught by teachers with negative attitudes (M = 4.7 /min). According to numerous experts in physical education (e.g., Graham, Holt/Hale, & Parker, 2007; Rink, 1996; Siedentop & Tannehill, 2000), effective teachers provide their students with more opportunities for practice attempts than less effective teachers. With this in mind, it could be concluded that teachers in the present study with a positive attitude toward inclusion were more effective teachers than teachers with a negative attitude toward inclusion.

The number of practice attempts were also independently influenced by the type of student. This suggested a main effect for the type of student. Specifically, the students without special needs received significantly more practice attempts (M = 8.35 /min) than the students with special needs (M = 4.55 /min) regardless of teacher attitude. This finding concurred with the results reported by Temple and Walkley (1999) who measured the motor engaged time of students with mild intellectual disabilities and students without disabilities in physical education classes. These researchers defined motor engaged time as the amount of time that a student was engaged in motor activity related to the goals of the setting, including motor appropriate and inappropriate activities. Similar to the results of the present

study, Temple and Walkley found that students with mild intellectual disabilities were significantly less motor engaged than their peers without disabilities.

The type of teacher attitude and the type of student did not interact to produce differences in the number of student practice attempts. The lack of a statistically significant interaction effect was surprising as the researcher expected to find that students with special needs had a similar amount of practice opportunities as students without special needs when taught by teachers with a positive attitude towards inclusion. This expectation was based on the Theory of Reasoned Action (Ajzen & Fishbein, 1980). According to this theory, a teacher's beliefs or attitudes towards something are expected to provide insight about actual behaviors.

The lack of an interaction may be misleading. The number of practice attempts made by students with disabilities (M = 6 /min) were lower than their non-disabled peers (M = 10.4 /min) in the classes taught by teachers with a positive attitude. However, the number of practice attempts made by students with special needs in the classes taught by teachers with a positive attitude (i.e. M = 6 /min) was comparable to the number of practice attempts made by the students without special needs (M = 6.3 /min) in classes taught by teachers with negative attitudes, and much higher than children with special needs (M = 3.1 /min) in the classes taught by teachers with negative attitudes. The lack of a significant interaction was probably due to the teachers with the positive attitudes providing a very high number of practice attempts to the children without disabilities (M = 10.4 /min).

Relationship Between Teacher Attitudes and Student Success

The results of this ANOVA suggested that the type of teacher attitude did not affect the number of successful practice opportunities that the students with and without disabilities received in physical education classes when the definitions of success were stated by the teacher. The teachers with the positive and negative attitudes toward inclusion provided different definitions of success for the students with and without disabilities in their classes. These definitions of success represented the individual teachers' expectations of each child. In the pre-observation conference, the 10 teachers with negative attitudes towards inclusion selected 85% of the components of the skills that they would be teaching as the success criteria for the children in their classes without special needs. In contrast, they selected 69.9% of the same components as the success criteria for their students with special needs. The 10 teachers with positive attitudes towards inclusion had higher expectations for all of their students. The positive attitudinal teachers selected 93% of the components of the skills that they would be teaching as the success criteria for students without special needs and 78% for students with special needs.

The notion that teachers demanded less from the students that they had lowered expectations of has been well documented in the literature (Beez, 1968; Cousineau & Luke, 1990; Martinek, 1981; Martinek & Karper, 1983). The finding that teachers with negative attitudes had noticeably lower expectations for students with special needs in their classes, and that these students (i.e., with special needs) still did not receive a significantly higher amount of successful practice attempts, suggested the presence of a Pygmalion effect. A Pygmalion effect similar to that described by Martinek & Karper (1983) and Mavi and Sharpe (2000) may have occurred whereby students with special needs in classes taught by teachers with negative attitudes towards inclusion were aware of the lowered expectations that the teacher had of them, that these lower expectations influenced what happened in the gymnasium (e.g., student-teacher interactions, student motor skill performance), and that the students with special needs conformed to the teachers' expectations.

The type of teacher attitude and the type of student did not interact to produce significant differences in the percentage of successful student practice attempts. The lack of a statistically significant interaction was surprising as the researcher expected to find that the students with special needs received a similar amount of successful practice opportunities as the students without special needs when taught by the teachers with a positive attitude toward inclusion. The assumption that the percentage of successful practice attempts would be similar for both groups of students in the classes taught by the teachers with a positive attitude toward inclusion was based on the findings of previous studies. Past researchers have found that student motor performance was consistent with the attitude and expectation of the teacher (Cousineau & Luke, 1990; Karper & Martinek, 1983; Martinek, 1981). Cousineau and Luke identified a relationship between ALT-PE and teachers expectations. They found that the ALT-PE of high expectancy students was higher than the ALT-PE of medium expectancy students, which in turn was higher than the ALT-PE of low expectancy students.

In conclusion, the findings from this study suggested a relationship between teacher attitude toward inclusion and teacher effectiveness. Specifically, teachers with a positive attitude toward inclusion provided all of their students with more practice attempts, at a higher level of success, and had higher expectations for their students' motor performance. These findings may have practical implications for administrators involved in hiring physical educators and for college educators in physical education – teacher education (PETE) program areas. Administrators may use these findings to seek out potential physical educators who have a positive attitude towards inclusion. Administrators may also provide more teacher in-services that focus on how to include children with special needs into regular physical education classes. Teacher in-services have been found to improve participating teachers'attitudes towards inclusion (Jansma & Schulz, 1984; Patrick, 1987). Additionally, the findings of the present study may encourage PETE professionals to incorporate classes that deal with inclusionary issues into pre-service teachers' courses of study and to address individualizing teaching strategies in all pedagogy courses.

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